Abstracts

Oral 7

Disease and injury surveillance I

O7.1 TIME TREND IN THE OCCURRENCE OF LATEX RELATED OCCUPATIONAL DISEASES IN GERMANY 1996–2003

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Introduction: During the late 1990s the augmented use of medical gloves made of natural rubber latex (NRL) resulted in a strong increase in allergic reactions. In 1998, efforts to reduce the exposure to powdered high protein NRL gloves were reinforced in Germany (change in legislation, and a campaign among non-public healthcare providers). The aim of this analysis was to show the time trend in the frequency of NRL related occupational diseases in Germany.
Methods: The confirmed compensation claims of NRL related skin diseases (occupational disease no 5101) and obstructive airway diseases (including rhinitis; occupational disease no 4301) of the German statutory compensation scheme for non-public healthcare providers (BGW) and the public sector (Unfallkassen, Munich), and of the statutory accident insurance institution for the industrial sector (HVBG, St Augustin) for the years 1996 to 2002 are described.
Results: Overall 5851 cases of NRL related skin and airway diseases were confirmed in the industrial and public sector between 1996 and 2002. Most cases (n = 4644) came form non-public healthcare providers (79%). The number of confirmed NRL related skin and airway diseases increased between 1997 and 1998 and continuously decreased afterwards until the year 2002 (percentage for each year relative to 1996 for non-public healthcare providers: 103%, 164%, 121%, 75%, 54%, 39%; for the public sector: 168%, 271%, 289%, 185%, 154%, 86%). In 2002, there were 274 confirmed cases from non-public healthcare providers (of which 79% were skin diseases) and 56 confirmed cases from the public sector. In the industrial sector excluding non-public healthcare providers about 50 cases were confirmed annually between 1996 and 2002 (except in 1998). Overall, most filed claims came from nurses/midwives (non-public healthcare providers: 32%; public sector: 67%) and assistants in medical practice (non-public healthcare providers: 38%).
Conclusion: The analysis demonstrates the positive effect of the preventive measures against latex allergies in Germany.

O7.2 CARPENTERS AS PARTNERS IN INJURY SURVEILLANCE AND PREVENTION

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Introduction: Residential construction workers present challenges to study from an epidemiological perspective. Their jobsites are small, their workplaces change frequently as they complete one job and move on to another, and they often have changing employers. For these reasons they have been neglected in many occupational health efforts.
Methods: We describe the collaboration of union carpenters and academic researchers in an active injury surveillance effort in which experienced journeymen carpenters collected standardised information from injured peers in an effort to more clearly understand circumstances surrounding injuries.
Results: Data were collected from a cohort of >5000 residential carpenters for 37 months; 586 carpenters were interviewed about injuries representing 80% of the injured. Injuries from pneumatic nail guns were responsible for 14% of all residential injuries. Sixty five per cent of these injuries would likely have been prevented through use of a sequential trigger requiring the nose of the gun be depressed before pulling the trigger. Apprentice carpenters were at particularly high risk (rate ratio 3.0 compared to journeymen) due in part to more exposure to the dangerous tool. Human factors also contributed to the injuries including poor placement of non-firing hand, use of non-dominant hand, by-passed safety mechanism, and lack of eye protection. Training for apprentices was begun and the effectiveness is now being evaluated through surveys of apprentice carpenters at various stages of training and ongoing injury surveillance. In addition, we are assessing changes in contractor purchasing behaviours and safety training for workers and the diffusion of sequential trigger tools to job sites.
Conclusions: This ongoing process provides an example of surveillance being brought full circle from data collection, problem identification, intervention development, evaluation, and feedback. The process has been made possible through sustained collaboration of labour, management, and academic researchers. In this case workers were successful under circumstances where academic investigators may not have been in both involvement of peers and collection of detailed data on work injuries and associated work processes.

O7.3 OCCUPATIONALLY RELATED EYE INJURIES: COULD THEY BE AVOIDED?

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Introduction: The eyes are among the organs most frequently hurt in occupational injuries. The characteristics of eye injuries were studied in order to suggest preventive measures.
Methods: Analyses were performed on work related eye injuries reported to the Norwegian Injury Surveillance System from a selection of emergency centres during the period 1990–2002, and on injuries reported by employers to the National Insurance Administration 1998–2001.
Results: The occurrence of injuries was stable over the period. Men sustained 94.4% of the injuries registered in injury surveillance system. The highest incidence was among those 20–24 years of age. Metal cutters and tools for polishing were involved in 25.7% of cases. Analyses of the injuries reported to the National Insurance Administration showed an odds ratio of 8.8 (95% CI 7.6 to 10.1) for injuries to workers in metal industry, 18.8 (95% CI 17.0 to 20.8) in automotive industry, and only 0.5 (95% CI 0.1 to 3.4) in oil refineries. Workers in oil refineries have a potentially hazardous work environment, but there, eye protection is mandatory.
Conclusion: There was no decline in the incidence of work related eye injuries from 1990 to 2002. Workers in metal industry have a high risk of injuries and employers should consider requiring the use of eye protection.

O7.4 OCCUPATIONAL OBSTRUCTIVE AIRWAY DISEASES IN GERMANY: FREQUENCY AND CAUSES IN AN INTERNATIONAL COMPARISON

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Introduction: According to the results from several cross sectional studies, work related influences are the substantial pathogenic factors in 5% to 30% of patients with asthma. Surveillance data provide another source of information on potential risk groups. Most surveillance for occupational asthma is based on reporting by physicians and/or data from compensation schemes. The most complete notification systems include countries with compulsory reporting of suspected occupational diseases to state authorities.
Methods: In Germany, all employees are insured against occupational diseases and reporting is compulsory for physicians. We present figures for the year 2003 from the German statutory accident insurance institution for the industrial sector on occupational obstructive airway diseases caused by allergens (including rhinitis) (occupational disease no 4301), irritants (occupational disease no 4302), and diseases due to isocyanates (occupational disease no 1315: mainly isocyanate asthma). Frequent causes are compared to published data from surveillance schemes on occupational asthma in other countries available from MEDLINE.
Results: Most of the 1158 confirmed reports of obstructive airway diseases are caused by allergens (922 confirmed cases) followed by irritants (181 cases), and isocyanates (55 cases). Main causes of obstructive airway diseases comprise flour/flour constituents (40.2%), food/feed dust (9.5%), natural rubber latex (6.5%), isocyanates (4.8%),

fruit/vegetables/plants (3.5%), and hair bleaches (3.0%). The majority of cases worked as bakers (42.8%), hairdressers (7.4%), shop assistants (5.2%), chemical workers (4.8%), and healthcare workers (assistants in medical practice: 4.0%, nurses: 2.5%). Flour and grain dust, and latex are among the most frequent causes in most European countries and South Africa. Isocyanates are still a problem worldwide.
Conclusion: Although definitions of occupational asthma, classification systems, source of data, and legal frameworks differ between surveillance schemes, highly affected occupations and most prominent causative agents of occupational obstructive airway diseases can be identified that necessitate improvement of preventive measures, mainly with regard to organic dust and isocyanates.

O7.5 ARTEMIA: A NEW OCCUPATIONAL ALLERGEN?

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Introduction: Artemia belong to the subphylum crustacea, and are used as living food for fish fry in fish farming and in shrimp aquaculture. One former and one present employee in a research farm of aquaculture had developed asthma symptoms when artemia exposed. In this study we wanted to determine the prevalence of skin sensitivity to artemia, respiratory and skin symptoms in relation to artemia work among all employees at a research farm of aquaculture.
Methods: A cross sectional survey was used among the employees. Through a questionnaire and interview information on exposure, airways, and hand skin symptoms were collected. For all employees were taken skin prick tests in duplicate (SPT) with native artemia, cod, positive and negative control. For employees with skin reaction to artemia additional SPT with house dust mite and shrimp were taken and for one person also native tiger prawn.
Results: Thirty (of 42) attended (16 women and 14 men). Twenty four had been exposed to artemia, four of them were SPT positive to native artemia, and two had a late reaction to artemia (after 11, 24 hours). One of the non-exposed had a late reaction (48 hours). All were SPT negative to cod. Two were SPT positive to mite, none to shrimp, but the person tested with native tiger prawn was positive.
Conclusion: Those SPT positive to native artemia (16.6% of the exposed) were likely sensitised and one of them had asthmatic symptoms after being exposed for 2–3 months in the hatch and feeding room for artemia (HR) and one had got hand eczema after being exposed to artemia for three years. Two artemia exposed had delayed SPT reaction to artemia (8.3%), were possible sensitised, and one of them had had asthmatic, upper airway symptoms earlier when in HR, but still got hand eczema when exposed. None of them were sensitised to mite. Artemia sensitising might have caused these symptoms. Two of the SPT positive had not recognised symptoms in contact with artemia. Both were SPT positive to mite and one to native tiger shrimp in addition. They might have been sensitised so far without symptoms, or this might represent a cross reaction, possibly with mite or other crustacea. Little is so far known of the allergen properties of artemia.

O7.6 EPIDEMIOLOGICAL SURVEILLANCE OF MUSCULOSKELETAL DISORDERS IN THE PAYS DE LA LOIRE REGION USING THE SALTSA METHOD

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Introduction: Musculoskeletal disorders are one of the major causes of morbidity and disability in industrial countries. An epidemiological surveillance system of work related musculoskeletal disorders (WMD) has been implemented since 2002 in the Pays de la Loire region to assess the prevalence of the WMD and their risk factors in the working population.
Methods: The surveillance was based on a network of occupational physicians and used the recommendations of the SALTSA consensus.[1] In 2002–03, 80 out a total of 400 occupational physicians volunteered to participate. All underwent a training programme to standardise the physical examination. Health status was assessed by a self-administered questionnaire and a physical examination. Work exposure was assessed by a self-administered questionnaire. Exposure scores were computed for each anatomic zone by summing the risk factors taken into account by the SALTSA consensus.
Results: More than half of the 2685 men and women included in 2002–03 suffered from musculoskeletal symptoms during the last 12 months and about 30% suffered during the preceding week. The prevalence of WMD confirmed by physical examination was high: about 13% of the workers suffered from at least one of the WMD. The most frequent were rotator cuff syndrome, carpal tunnel syndrome, and lateral epicondylitis. The prevalence increased with age and varied according to economic sectors and occupations. More than half of the workers were exposed to at least two risk factors of WMD. Exposure varied according to industrial activity and occupation.
Conclusion: The recommendations of the SALTSA consensus were relatively easy to apply and numerous occupational physicians agreed to participate for several years. These results show the need to implement prevention programmes in most sectors to reduce the prevalence of WMD. The surveillance of WMD during several years will permit the implementation of an epidemiological tool that can be used to inform the government agencies and companies of the current situation of WMD in a French region and to assess the impact of interventions.

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